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| TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A SUBMISSION UNDER 35 U.S.C. 371 | | ATTORNEY'S DOCKET NUMBER 8054-109 (LW8081 PC/US) U.S. APPLICATION NO. (if known, see 37 CFR 1.5) 107534983 |
| INTERNATIONAL APPLICATION NO. PCT/KR2003/002662 | INTERNATIONAL FILING DATE 5 December 2003 | PRIORITY DATE CLAIMED 9 December 2002 |
| TITLE OF INVENTION THIN FILM TRANSISTOR SUBSTRATE, METHOD OF MANUFACTURING THE SAME, LIQUID CRYSTAL DISPLAY APPARATUS HAVING THE SAME AND METHOD OF MANUFACTURING THE LIQUID CRYSTAL DISPLAY APPARATUS | | |
| APPLICANT(S) FOR DO/EO/US Seong-Yong HWANG, Weon-Sik OH, Ju-Young YOON, Sung-Chul KANG | | |

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a submission under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a submission under 35 U.S.C. 371.
3. ☐ This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below.
4. ☒ The US has been elected (Article 31).
5. ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
 - a. ☐ is attached hereto (required only if not communicated by the International Bureau).
 - b. ☒ has been communicated by the International Bureau.
 - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☒ An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).
 - a. ☒ is attached hereto.
 - b. ☐ has been previously submitted under 35 U.S.C. 154(d)(4).
7. ☐ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
 - a. ☐ are attached hereto (required only if not communicated by the International Bureau).
 - b. ☐ have been communicated by the International Bureau.
 - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
 - d. ☐ have not been made and will not be made.
8. ☐ An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. ☐ An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11 to 20 below concern document(s) or information included:

11. ☒ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. ☒ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. ☐ A preliminary amendment.
14. ☐ An Application Data Sheet under 37 CFR 1.76.
15. ☐ A substitute specification.
16. ☐ A power of attorney and/or change of address letter.
17. ☐ A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 37 CFR 1.821- 1.825.
18. ☐ A second copy of the published International Application under 35 U.S.C. 154(d)(4).
19. ☐ A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).
20. ☒ Other items or information: International Search Report


This collection of information is required by 37 CFR 1.414 and 1.491-1.492. The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 15 minutes to complete, including gathering information, preparing, and submitting the completed form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

JC20 Rec'd PCT/PTO 1 4 MAY 2005

PTO-1390 (Rev. 02-2005)

Approved for use through 3/31/2007. OMB 0651-0021
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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|---|--------------|--|--|--|----|
| U.S. APPLICATION NO. 10/534983 | | INTERNATIONAL APPLICATION NO. PCT/KR2003/002662 | | ATTORNEY'S DOCKET NUMBER 8054-109 (LW8081PC/US) | |
| The following fees have been submitted | | | | CALCULATIONS | |
| 21. <input checked="" type="checkbox"/> Basic national fee..... \$300 | | | | \$ 300.00 | |
| 22. <input checked="" type="checkbox"/> Examination fee If International preliminary examination report prepared by USPTO and all claims satisfy provisions of PCT Article 33(1)-(4)..... \$100 All other situations..... \$200 | | | | \$ 200.00 | |
| 23. <input checked="" type="checkbox"/> Search fee Search fee (37 CFR 1.445(a)(2)) has been paid on the international application to the USPTO as an International Searching Authority..... \$100 International Search Report prepared and provided to the Office..... \$400 All other situations..... \$500 | | | | \$ 500.00 | |
| TOTAL OF 21, 22 and 23 = | | | | \$ 1,000.00 | |
| <input type="checkbox"/> Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing or computer program listing filed in an electronic medium). The fee is \$250 for each additional 50 sheets of paper or fraction thereof. | | | | | |
| Total Sheets | Extra Sheets | Number of each additional 50 or fraction thereof (round up to a whole number) | RATE | | |
| - 100 = | /50 = | | x \$250 | \$ | |
| Surcharge of \$130.00 for furnishing the oath or declaration later than 30 months from the earliest claimed priority date (37 CFR 1.492(h)). | | | | \$ | |
| CLAIMS | NUMBER FILED | NUMBER EXTRA | RATE | \$ | |
| Total claims | 18 - 20 = | 0 | x \$ 50 | \$ 0 | |
| Independent claims | 4 - 3 = | 1 | x \$200 | \$ 200.00 | |
| MULTIPLE DEPENDENT CLAIM(S) (if applicable) | | | + \$360 | \$ | |
| TOTAL OF ABOVE CALCULATIONS = | | | | \$ 1,200.00 | |
| <input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. Fees above are reduced by 1/2. | | | | | |
| SUBTOTAL = | | | | \$ 1,200.00 | |
| Processing fee of \$130.00 for furnishing the English translation later than 30 months from the earliest claimed priority date (37 CFR 1.492(i)). | | | | \$ | |
| TOTAL NATIONAL FEE = | | | | \$ 1,200.00 | |
| Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property | | | | \$ | |
| TOTAL FEES ENCLOSED = | | | | \$ 1,200.00 | |
| | | | | Amount to be refunded: | \$ |
| | | | | Amount to be charged: | \$ |
| <p>a. <input type="checkbox"/> A check in the amount of \$ _____ to cover the above fees is enclosed.</p> <p>b. <input type="checkbox"/> Please charge my Deposit Account No. _____ in the amount of \$ _____ to cover the above fees. A duplicate copy of this sheet is enclosed.</p> <p>c. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. <u>50-0679</u>. A duplicate copy of this sheet is enclosed.</p> <p>d. <input checked="" type="checkbox"/> Fees are to be charged to a credit card. WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.</p> | | | | | |
| <p>NOTE: Where an appropriate time limit under 37 CFR 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the International Application to pending status.</p> | | | | | |
| SEND ALL CORRESPONDENCE TO: | | | | | |
| Frank Chau F. Chau & Associates, LLC 130 Woodbury Road Woodbury, New York 11797 | | |  SIGNATURE Frank Chau NAME 34,136 REGISTRATION NUMBER | | |

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Seong-Yong Hwang et al.

Int'l. Application No.: PCT/KR2003/002662

Int'l. Filing Date: 5 December 2003

For: THIN FILM TRANSISTOR SUBSTRATE, METHOD OF
MANUFACTURING THE SAME, LIQUID CRYSTAL DISPLAY
APPARATUS HAVING THE SAME AND METHOD OF
MANUFACTURING THE LIQUID CRYSTAL DISPLAY
APPARATUS

Mail Stop PCT
Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.10

I hereby certify that the below listed documents are being deposited with the United States Postal Service on this date May 13, 2005 in an envelope as "Express Mail Post Office to Addressee" Mail Label Number EV553756325US addressed to: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

1. Transmittal Letter to the U.S. Designated Elected Office (DE/EO/US) Concerning a Filing under 35 U.S.C. 371
2. International Application as published
3. International Search Report
4. Information Disclosure Statement, Form PTO-1449 and cited references
5. Executed Declaration and Power of Attorney
6. Assignment Recordation Cover Sheet and 2 sheets of Assignment
7. Credit Card Payment Form PTO-2038 (2)
8. Certificate of Mailing
9. Return Postcard

Dated: May 13, 2005



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